The chemical engineering program in the Department of Chemical and Biomolecular Engineering educates engineers to design, develop, and operate chemical processes by which chemicals, petroleum products, food, pharmaceuticals, and consumer goods can be produced economically and safely. Chemical engineering students study changes in the composition, energy content, or state of aggregation of materials taking into consideration the fundamentals of the nature of matter and its properties (chemistry); the forces that act on matter (physics); and the relationships between them (mathematics). Chemical engineering differs from chemistry in its emphasis on commercial applications of chemical reactions and separations and techniques for designing, operating, and controlling processes.

**Career Areas/Job Titles:**

**Management and Industry**
- Operations Manager
- Sales Specialist
- Consultant

**Communication and Media**
- Technical Documentation Expert

**Health Professions**
- Pharmaceuticals Consultant

**Science and Technology**
- Research and Development
- Design Engineer
- Pharmaceuticals Engineer
- Consumer Products Engineer
- Chemical Design Engineer
- Environmental Engineer

**Education**
- Professor

**Government/Politics**
- Lobbyist
- FDA Employee
- Lawyer

**Transferable Skills:**

<table>
<thead>
<tr>
<th>Chemistry</th>
<th>Gathering Information</th>
<th>Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Fundamentals</td>
<td>Identifying Problems</td>
<td>Prioritizing Tasks</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Research Skills</td>
<td>Strategic Planning/Visioning</td>
</tr>
<tr>
<td>Physics</td>
<td>Setting Goals</td>
<td>Creating Innovative Solutions</td>
</tr>
<tr>
<td>Provide/Respond to Feedback</td>
<td>Adaptability/Flexibility</td>
<td>Quantitative Reasoning</td>
</tr>
<tr>
<td>Use Technology Effectively</td>
<td>Attention to Detail</td>
<td>Analytical/Critical Thinking</td>
</tr>
<tr>
<td>Written Communication</td>
<td>Judgment &amp; Decision Making</td>
<td>Problem Solving</td>
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<tr>
<td>Teamwork</td>
<td>Implementing Decisions</td>
<td></td>
</tr>
<tr>
<td>Conceptualizing</td>
<td>Organization Skills</td>
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</tr>
</tbody>
</table>

*Some careers may require licensure, certification, or further education. Talk to an advisor about specific requirements.*

*This is not an extensive list of transferable skills. See larger list of skills you might develop here: [link](http://ccss.osu.edu)*

**Professional Links:**

- American Institute of Chemical Engineers: [http://www.aiche.org/](http://www.aiche.org/)
- American Chemical Society: [http://portal.acs.org/portal/acs/corg/content](http://portal.acs.org/portal/acs/corg/content)
- Chemical and Biomolecular Engineering Department: [www.cbe.osu.edu](http://www.cbe.osu.edu)